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ANTIGENIC CHARACTERIZATION OF LOCALLY PREVALENT RABIES
STRAINS USING MONOCLONAL ANTIBODIES(U) NAVAL MEDICAL
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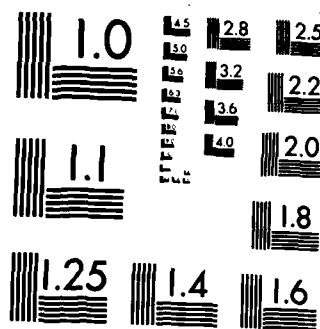
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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Rabies Information Exchange, (U.S. Department of Health and Human Services,
Laurenceville, Georgia), p. 5-7, 1982.

ANTIGENIC CHARACTERIZATION OF LOCALLY PREVALENT RABIES STRAINS USING
MONOCLONAL ANTIBODIES*

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The production of monoclonal antibodies has been made feasible by hybridoma technology. The key to the importance of the hybridoma technology lies in the fact that each hybridoma clone represents the fusion of one plasmacytoma cell with one activated lymphocyte. Since each lymphocyte in the immunized animal responds to a single determinant, the antibody secreted by the hybridoma clone will be monospecific. In the case of rabies, it was possible to obtain hybridomas that secrete antibodies to the nucleocapsid determinants of the virus and others that secrete antibodies to the glycoprotein determinants. The production of such antibodies provided the opportunity to study and antigenically analyze the street rabies virus strains prevalent in Egypt. The monoclonal antibodies used in this study were kindly supplied by Dr. T. J. Wiktor, Wistar Institute, Philadelphia, PA.

In this communication we give the results of antigenic characterization of 19 rabies strains using 19 monoclonal antibodies to the nucleocapsid fraction of the rabies virus and one monoclonal (422-5) to the Mokola rabies-related virus (Table 1). The first 2 strains (1-2) were from human rabies cases. The next 9 strains (3-11) were isolated from rabid dogs, strains 12 and 13 from cats, strain 14 from a donkey, strain 15 from a sheep, strains 16-18 from gerbils and strain 19 is the Challenge Virus Standard (CVS) maintained by mouse passages in our laboratory since 1972.

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Results indicate the nucleocapsid identity of the human and domestic animal strains tested. Two of the gerbil strains were different in that they did not react with one of the 19 rabies monoclonals used. Our laboratory maintained CVS strain did not react with 2 monoclonals. Further characterization of these strains by the glycoprotein monoclonal antibodies will be carried out.

* From Research Project No. MR00001.01-3062, Naval Medical Research and Development Command, National Naval Medical Center, Bethesda, Maryland. The opinions and assertions contained herein are the private ones of the authors and are not to be construed as official or as reflecting the views of the Department of the Navy or the naval service at large.

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